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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,877	09/28/2000	Geoffrey Owen Blandy	AUS9-2000-0573-US1	7181

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EXAMINER

TSAI, HENRY

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 05/04/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,877

Applicant(s)

BLANDY, GEOFFREY OWEN

Examiner

Henry W.H. Tsai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,9,10,13,17,18 and 21 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6-8, 11, 12, 14-16, 19, 20, and 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/28/00 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 March 2004 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 6.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 9, 10, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Karp et al. (USP 5,748,936) herein referred as Karp et al.

Referring to claim 1, Karp et al. discloses as claimed, a method of handling exceptions in a device (a computer system 20, see Fig. 1) having predication (predicate file 50 and speculative look aside table (SLAT) 80, see Fig. 3), comprising: determining if an exception is pending based on values (the value of Value 58 and the value of Poison bit in register 88 inside speculative look aside table (SLAT) 80, see Fig. 3) of a predicate register pair (the register pair comprising the register 50 comprising Value 58 and the register 80 comprising Poison bit 88, see Fig.

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3); and handling the exception when it is determined that an exception is pending (see Fig. 7A, in block 256 YES condition when POISON BIT is set; and also see Col. 11, lines 61-62, regarding when the poison bit is set, the processor handles the exception).

Referring to claim 9, Karp et al. discloses as claimed, an apparatus for handling exceptions in a device (a computer system 20, see Fig. 1) having predication (predicate file 50 and speculative look aside table (SLAT) 80, see Fig. 3), comprising: means for determining if an exception is pending based on values (the value of Value 58 and the value of Poison bit in register 88 inside speculative look aside table (SLAT) 80, see Fig. 3) of a predicate register pair (the register pair comprising the register 50 comprising Value 58 and the register 80 comprising Poison bit 88, see Fig. 3); and means for handling the exception when it is determined that an exception is pending (see Fig. 7A, in block 256 YES condition when POISON BIT is set; and also see Col. 11, lines 61-62, regarding when the poison bit is set, the processor handles the exception).

Note claim 17 contains the similar limitations as claims 1 and 9 which are disclosed by Karp et al. as set forth above. Further note all the steps and means described in claims 1 and 9 are inherently implemented in a computer program as claimed.

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As to claims 2, 10, and 18, Karp et al. also discloses: determining if an exception is pending includes determining if a value of a first predicate register is true (see Fig. 7A, in block 24, CONTROLLING PREDICATE is true) and a second predicate register is false (Poison bit in register 88 inside speculative look aside table (SLAT) 80, see Fig. 3 and Fig. 7B, block 256 is set). Note the set bit in the Poison bit 88 in register 80 is best reasonably and broadly interpreted as false.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karp et al. (USP 5,748,936).

As to claims 2, 10, and 18, Karp et al. discloses the claimed invention except for: determining if an exception is

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pending includes determining if a value of a first predicate register is true (see Fig. 7A, in block 244, CONTROLLING PREDICATE is true). For determining if an exception is pending Karp et al. also uses a second predicate register is true (Poison bit 88 inside speculative look aside table (SLAT) 80, see Fig. 3 and Fig. 7B, block 256 is set).

However, Karp et al. does not disclose a second predicate register is false for determining if an exception is pending.

It is well known in the art that the bit is true or false can be represented by a set or not set value.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Karp et al.'s system to comprise: a second predicate register is false for determining if an exception is pending since it is just an alternative arrangement for using the bit set representation comparing with that used in Karp et al.'s system.

5. Claims 5, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karp et al. (USP 5,748,936).

Karp et al. discloses the claimed invention except for: the device having an IA64 architecture.

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However, Karp et al., mentioned in col. 5, lines 13-15, that the processor 22 may vary. It is well known in the art that IA64 architecture is one of different processor architectures; and the predication and speculation (predicate file 50 and speculative look aside table (SLAT) 80, see Fig. 3), are the key features existing in an IA64 architecture.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Karp et al.'s system to comprise: the data processing device having an IA64 architecture in order to allow the Karp et al.'s system to process larger operand operations for more precise calculation results.

Allowable Subject Matter

6. Claims 3, 4, 6-8, 11, 12, 14-16, 19, 20, and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Response to Amendment

7. Applicant's arguments filed 3/12/04 have been fully considered but they are not deemed to be persuasive.

Applicants argue that Karp does not identically show every element of the claimed invention arranged as they are in the claims. Specifically, Karp does not teach determining if an exception is pending based on values of a predicate register pair (page 11, last two lines). Examiner disagrees with Applicants. As set forth in the art rejections above, Karp et al. discloses the claimed invention comprising: determining if an exception is pending based on values (the value of Value 58 and the value of Poison bit in register 88 inside speculative look aside table (SLAT) 80, see Fig. 3) of a predicate register pair (the register pair comprising the register 50 comprising Value 58 and the register 80 comprising Poison bit 88, see Fig. 3).

Applicants also argue that the poison bits, which are stored in a completely different data structure, i.e. the SLAT, are used to determine whether an exception is pending. There is no way to tell whether an exception is pending based on the predicate registers in Karp (page 12, lines 20-22). Examiner disagrees with Applicants. The poison bit does not have to be in the same data structure as the other register bit (which is

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Value bit 58 see Fig. 3). As set forth above, as claimed, Karp et al. discloses the predicate register pair comprising the register 50 comprising Value 58 and the register 80 comprising Poison bit 88 as shown in Fig. 3.

Applicants further argue that Karp cannot teach that determining if an exception is pending includes determining if a value of a first predicate register is true and a second predicate register is false, as recited in claims 2, 10 and 18 (page 14, lines 10-12).

Examiner disagrees with Applicants. As set forth above, the set bit in the Poison bit 88 in register 80 is best reasonably and broadly interpreted as false. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Karp et al.'s system to comprise: a second predicate register is false for determining if an exception is pending since it is just an alternative arrangement for using the bit set representation comparing with that used in Karp et al.'s system.

In summary, Karp et al. anticipates the claimed invention.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

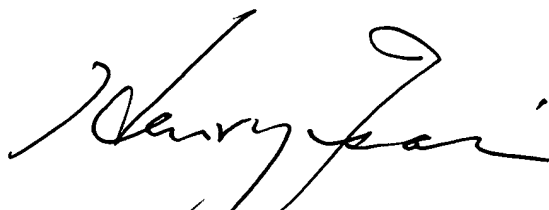
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Henry Tsai whose telephone number is (703) 308-7600. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Eddie Chan, can be reached on (703)

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305-9712. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 receptionist whose telephone number is (703) 305-3900.

10. In order to reduce pendency and avoid potential delays, Group 2100 is encouraging FAXing of responses to Office actions directly into the Group at fax number: 703-872-9306

This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2100 will be promptly forward to the examiner.



HENRY W. H. TSAI
PRIMARY EXAMINER

May 2, 2004